

CLAIM LISTINGS

1-26. (cancelled)

27. (currently amended) A composite molded article comprising
~~Material composites of a moulded article of~~ at least one
transparent or translucent dyeable ~~plastic~~ polyamide
moulding compound ~~which moulded article is bonded~~ adhered
to at least one material selected from a transparent
surface layer, or a translucent surface layer, decorative
films, functional films ~~or coats or~~ and rubbers ~~or other~~
~~plastics, wherein characterised in that~~ said polyamide
~~plastics moulding compound used for the manufacture of~~
~~said moulded article, said surface layer or said other~~
~~plastics contains~~ comprises in an amount of 0.01 to 5.0 %
by weight, ~~preferably 0.01 to 2.0 % by weight, each~~
~~related to the total weight of the moulding compound, at~~
least one lubricant comprising ~~selected from the group~~
~~consisting of sorbitan esters, sebacic acid esters,~~
~~dodecanedioic acid esters, docosanoic acid esters,~~
~~glycerine, glycol, diethylene glycol, stearyl amide,~~
~~stearyl stearate, ethylene bissteroyl amide, octane~~
~~pyrrolidone, and from the group consisting of non-polar~~
~~paraffin oils, and~~ 2,6,10,15,19,23-hexamethyl tetracosane
or an isomer of 2,6,10,15,19,23-hexamethyl tetracosanes,
~~and that a permanent adhesion to said other plastics~~

~~layers and/or films or coats or rubbers or other plastics is achieved.~~

28. (cancelled)

29. (cancelled)

30. (currently amended) The material composites according to claim 27, wherein ~~said moulding compound for the manufacture of said moulded article and/or~~ said transparent surface layers and/or said other plastics comprises polymethyl methacrylate, polycarbonate, diethylene-glycoldiallyl carbonate (CR 39), polystyrene, polyethylene terephthalate, polybutylene terephthalate, PEN, and copolymers thereof, polyamide, copolyamide, polyether sulfone, poly(aryl) ether ketone, polyimide, polyurethane, polyacetal, polyamide imide, polyether ketone, polyether imide, polyphenylene oxide, poly(oxymethylene) acrylonitrile/butadiene/styrene polymer or mixtures thereof.

31. (currently amended) The composite molded article of ~~material composites according to~~ claim 27, wherein said at least one lubricant is added during one of the polymerisation of said polyamide moulding compound, ~~or polycondensation of said polyamide plastics moulding compound compounds, is included by a process selected from the group consisting of~~ compounding as a master

batch, ~~is~~ or applied to the granulate made from ~~non~~ said polyamide plastics moulding compound ~~compounds~~ and is further used for the dispersion of coloured pigments.

32. (currently amended) The composite molded article of ~~material composites according to claim 27, wherein said transparent or translucent dyeable polyamide plastics moulding compound compounds for the manufacture of said moulded article and/or for the manufacture of said transparent or translucent surface layer are polyamide moulding compounds~~ comprises at least one copolymerized monomer selected from the group consisting of lactams, ω -amino acids, and/or dicarboxylic acids, and including ~~suitable amounts of diamines, the structures of the respective monomers being derived non the group of aliphatics, cycloaliphatics or aromatics which may comprise other substituents or branches.~~

33. (currently amended) The composite molded article of ~~material composites according to claim 27, wherein said moulded articles are~~ article is manufactured by the ~~methods of~~ a method selected from the group consisting of injection moulding ~~process~~, injection compression moulding ~~process~~, injection blow moulding ~~process~~, injection stretch blow moulding ~~process or~~ extrusion

~~process, and film-laminating process and a special injection moulding process.~~

34.(currently amended) The composite molded article of
~~material composites according to~~ claim 27, further
comprising in-mould labelling, in-mould decoration, in-
mould film decoration, composite injection moulding,
laminating, vapour coating, printing, adhesive bonding,
dyeing, or coating, and sealing ~~and are permanently~~
~~bonded to other components.~~

35.(currently amended) The composite molded article of
~~material composites according to~~ claim 34, wherein said
composites are coated, hardcoated or dyeable hard coated
and further ~~are~~ attached with or without a primer-coat
layer ~~from solution onto the moulded article manufactured~~
~~by thermoplastic forming processes or by forming~~
~~processes for reactive casting compounds such as~~
~~polyurethane casting compounds,~~ and subsequently cured.

36.(currently amended) The composite molded article of
~~material composites according to~~ claim 34, wherein vapour
coating processes (~~sputtering~~) are used to apply layers
~~to said moulded articles~~ wherein a silicon hard coat ~~or a~~
~~shade~~ is produced by evaporation of metals with or
without a preparation by plasma treatment.

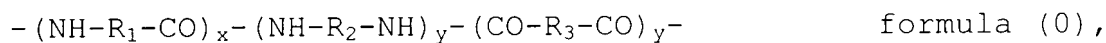
37.(currently amended) The composite molded article of
~~material composites according to~~ claim 34, used for
optical components ~~such as~~ selected from ophthalmic
lenses, ~~or~~ sun lenses ~~for eyeglasses~~, magnifier lenses,
lens systems, microscopes, cameras, displays for mobile
cellular telephones, camera lenses, measuring
instruments, watch-glasses, ~~or~~ watch cases, cases for
portable telephone sets with or without integrated
displays, ~~or all kinds of apparatuses and for~~ CDs, DVDs,
lenses for LEDs, optical waveguides, light couplers,
light amplifiers, distributors, ~~and~~ panes for lamps, ~~and~~
panes for laser alignment tools, multi-layer films, and
~~compound containers and all kinds of transparent~~
~~composites.~~

38.(currently amended) The composite molded article of
~~material composites according to~~ claim 34, wherein said
~~coats applied comprise a~~ further comprising at least one
coat selected from colouring substance, ~~and/or an~~
antireflection coating, ~~and/or a~~ UV protection, ~~and/or~~
photochromic, ~~and/or~~ thermochromic, ~~and/or~~ antifogging,
~~and/or~~ water-repellent, ~~and/or a~~ scratch-proof coat
~~functions.~~

39.(currently amended) The composite molded article of
~~material composites according to~~ claim 27, wherein said

~~other plastics are made of~~ comprising transparent plastics containing lubricants ~~and are~~ joined or bonded to decorative films, functional films ~~such as polarizing sheets,~~ hard-coat films, filter films, ~~or coats~~ or rubbers ~~or other plastics.~~

40. (currently amended) The composite molded article of ~~material composites according to claim 30~~ 27, wherein said polyamide ~~polyamides of said~~ moulding compound ~~compounds are~~ is represented by the following chains of formula (0):



wherein

x, y stand for up to 100 mole-% and the groups R₁, R₂, R₃ may be the same or different and consist of linearly aliphatic chains, ~~or~~ branched chains or cycloaliphatic chains having 2 - 18 (CH₂) units, chains, having ~~cycloaliphatic nuclei, dialkyl cycloaliphatic nuclei, alkylated cycloaliphatic nuclei,~~ ortho, meta, para aromatic nuclei, ortho, meta, para dialkyl aromatic nuclei or mixtures thereof, wherein the aromatic chain or cycloaliphatic chain ~~nuclei~~ may be mononuclear or polynuclear and may be bonded directly or indirectly or through linear or branched alkyl groups.

41. (currently amended) The composite molded article of
~~material composites according to claim 40, wherein said~~
~~polyamide compositions for said polyamide moulding~~
compound compounds consist of one or more components of
said polyamides of formula (0) and one or more components
of semicrystalline polyamides, copolyamides, or block
copolyamides.

42. (currently amended) The composite molded article of
~~material composites according to claim 40, wherein said~~
~~polyamide compositions for said polyamide moulding~~
~~compounds consist of~~ further comprises one or more
component components of said polyamides of formula (0)
and ~~one or more components selected from the group~~
~~consisting of at least one~~ impact strength modifiers such
as ~~grafted sheath/core polymers, impact strength~~
~~modifiers such as SBR, SBS, EPS, EPR, SEBS, EMP, EPDM,~~
~~maleic anhydride, grafted polyethylenes, propylene,~~
~~terpolymers of ethylene glycidyl methacrylate, and from~~
~~the group of foreign polymers or from the group of~~
~~thermotropic or thermochromic additives which change the~~
~~shade in dependence on temperature or independent of the~~
~~wavelength of the radiated light, and other processing~~
~~agents or from the group of reinforcing materials such as~~
~~glass fibres or balls, or antidamping agents.~~

43. (currently amended) The composite molded article of
~~material composites according to~~ claim 40 wherein said
polyamide ~~polyamides of said moulding compound compounds~~
consist of:

- A. 100 mole-% of a diamine mixture of 10 - 70 mole-% of
PACM [bis-(4-aminocyclohexyl) methane] containing
less than 50 % by weight of trans,trans isomers, and
90 - 30 mole-% of MACM [bis-(4-amino-3-methyl-
cyclohexyl) methane], wherein 0 - 10 mole-% of the
diamine mixture ~~mixture~~ may be substituted by other
aliphatic diamines having 6 to 12 C-atoms,
cycloaliphatic, alkyl-substituted cycloaliphatic,
branched aliphatic diamines or multiamines having 3
to 12 amino groups or mixtures thereof; and
- B. 100 mole-% of long-chain aliphatic dicarboxylic
acids having 8 to 14 C-atoms or mixtures of these
dicarboxylic acids, wherein 0 - 100 mole-% of these
dicarboxylic acids may be substituted by other
aromatic or cycloaliphatic dicarboxylic acids having
8 to 16 C-atoms ~~which are particularly~~ selected from
the group consisting of isophthalic acid,
terephthalic acid, naphthalene dicarboxylic acid,
cyclohexane dicarboxylic acid or mixtures thereof,
~~wherein up to 100 mole-% of the other long-chain~~

~~aliphatic diamines and up to 100 mole-% of the other long chain aliphatic dicarboxylic acids may optionally be added as~~ further comprising up to 20 mole-% of ω - amino acids having 6 to 12 C-atoms or lactams having 6 to 12 C-atoms.

- 44.(currently amended) The composite molded article of ~~material composites according to~~ claim 43, wherein said polyamide moulding compound ~~polyamides~~ consist of:
- A. 100 mole-% of a diamine mixture of 30 - 70 mole-% of PACM [bis-(4-aminocyclohexyl) methane] containing less than 50 % by weight of trans,trans isomers, and 70 - 30 mole-% of MACM [bis-(4-amino-3-methyl-cyclohexyl) methane]; and
 - B. 100 mole-% of dodecanedioic acid (DDA) or sebacic acid (SA) or azelaic acid (AA) or mixtures thereof.

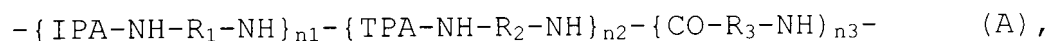
- 45.(currently amended) The composite molded article of ~~material composites according to~~ claim 44, wherein said polyamide moulding compound ~~polyamides~~ consist of:
- A. 100 mole-% of a diamine mixture of 40 - 70 mole-% of PACM [bis-(4-aminocyclohexyl) methane] containing less than 50 % by weight of trans,trans isomers, and 60 - 30 mole-% of MACM [bis-(4-amino-3-methyl-cyclohexyl) methane]; and
 - B. 100 mole-% of dodecanedioic acid.

46. (currently amended) The composite molded article of
~~material composites according to~~ claim 45, wherein said
polyamide moulding compound ~~polyamides~~ consist of:

A. 100 mole-% of a diamine mixture of 50 - 70 mole-% of
PACM [bis-(4-aminocyclohexyl) methane] containing
less than 50 % by weight of trans,trans isomers, and
50 - 30 mole-% of MACM [bis-(4-amino-3-methyl-
cyclohexyl) methane]; and

B. 100 mole-% of dodecanedioic acid.

47. (withdrawn-currently amended) The composite molded
article of ~~material composites according to~~ claim 27,
wherein said polyamide ~~polyamides of said~~ moulding
compound ~~compounds are polyamides based on~~ comprise
copolyamides which particularly have a refractive index
 n_D^{20} over 1.59, which have a predominant weight percentage
of diamines and aromatic dicarboxylic acids ~~having~~
~~aromatic nuclei,~~ characterised by the following chains
represented by formula (A):



where

n_1 = 40 to 100 % by weight,

n_2 = 60 to 0 % by weight,

n_3 = 0 to 30 % by weight and wherein the weight

percentages of n_1 , n_2 and n_3 balance to 100 % by weight,

wherein the diamines ~~having the nuclei~~ wherein R_1 , R_2 may be the same or different and consist of paraxylylene or meta-xylylene units in an amount of at least 30 mole-% related to 100 mole-% of diamine and consist of linearly aliphatic or branched cycloaliphatic chains having 2 to 12 (CH_2) units or of chains ~~having cycloaliphatic nuclei~~ which are used alone or as mixtures and wherein 100 mole-% of said dicarboxylic acids consist of at least 40 mole-% of isophthalic acid (IPA) and of terephthalic acid (TPA) in an amount to balance 100 mole-%, wherein TPA may completely or partially be substituted by naphthalene dicarboxylic acids, wherein up to 30 % by weight of said copolyamides of said moulding compounds may be substituted by amino acids or lactams having an R_3 nucleus, consisting of 5 to 11 (CH_2) chains.

48. (withdrawn-currently amended) The composite molded article of ~~material composites according to~~ claim 47, wherein said copolyamides comprise the composition of formula (B):

MXDI/MXDT/6I/6T (B),

where

the respective components have the following mole percentages:

meta-xylylene diamine (MXD): 20 to 100 mole-%,

hexamethylene diamine (6): 80 to 0 mole-%,
isophthalic acid (I): 50 to 100 mole-%, and
terephthalic acid (T): 50 to 100 mole-%,
each related to 100 mole-% of diamine and 100 mole-% of
dicarboxylic acids, wherein meta-xylylene diamine may
completely or partially be substituted by para-xylylene
diamine and wherein terephthalic acid may completely or
partially be substituted by naphthaline dicarboxylic
acid, wherein symmetric or preferably asymmetric isomers
or mixtures thereof may be used.

49. (withdrawn-currently amended) The composite molded
article of material composites according to claim 48,
wherein said copolyamides comprise the composition of
formula (B):

MXDI/MXDT/6I/6T

(B),

where

the respective components have the following mole
percentages:

meta-xylylene diamine (MXD): 20 to 80 mole-%,

hexamethylene diamine (6): 80 to 20 mole-%,

isophthalic acid (I): 60 to 80 mole-o/o, and

terephthalic acid (T): 40 to 20 mole-%,

each related to 100 mole-% of diamine and 100 mole-% of dicarboxylic acids.

50. (withdrawn-currently amended) The composite molded article ~~of material composites according to~~ claim 48, wherein said copolyamides comprise the composition of formula (C):

6I/6T/6NDC (C),

where

the respective components have the following mole percentages:

naphthaline dicarboxylic acid (NDC) having a symmetric or asymmetric substituent position, or

mixtures thereof, particularly 2,6-naphthaline carboxylic acid: 20 to 80 mole-%,

isophthalic acid (I): 80 to 20 mole-%,

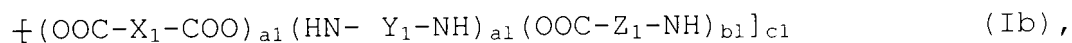
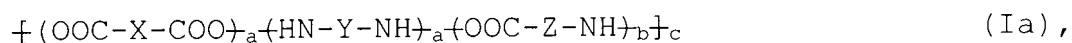
terephthalic acid (T): 40 to 0 mole-%, and

hexamethylene diamine (6): 100 mole-%, which

hexamethylene diamine may completely or partially be substituted by ethylene diamine, trimethyl hexamethylene diamine, or linear diamines having 8 to 12 CH₂-groups, or cycloaliphatic diamines such as norbomane diamine, 4,4-diaminodicyclohexyl methane, 3,3'-dimethyl-4,4'-diaminodicyclohexyl methane or mixtures thereof, each

related to 100 mole-% of diamine and 100 mole-% of dicarboxylic acids.

51. (withdrawn-currently amended) The composite molded article of material composites according to claim 27, wherein said ~~polyamides of said~~ polyamide moulding compound compounds are is a polyamidblends polyamide blend consisting of a polyamide having the composition of formula (I); and and at least one semicrystalline polyamide having the composition of formula (II), wherein the components of said polyamide (I) and said polyamide (II) are used in a ratio of 99 : 1 to 1 : 99, preferably 10 : 90 to 90 : 10, so that the sum equals 100 parts, wherein said polyamide (I) has the following monomer composition or is represented by chains of the following formulas (Ia) or (Ib):

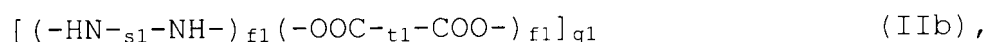
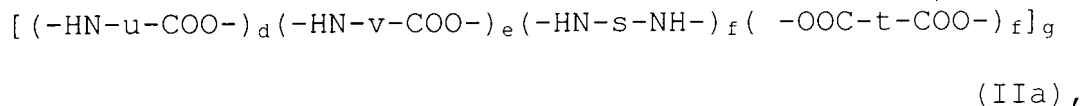


where

X = iso-phenylene, para-phenylene, 4 - 12 (CH₂) units,
cyclohexyl, naphthyl, norbornyl, norbornane
dimethyl, trimethyl hexamethylene,

X_1 = iso-phenylene, para-phenylene2 - 12 (CH₂) units,
 cyclohexyl, naphthyl, norbornyl, norbornane
 dimethyl, trimethyl hexamethylene,
 Y = (CH₂): 2 - 12 (CH₂) units, cyclohexyl, bis-(methyl-
 cyclohexyl) methane, bis-(methylcyclohexyl) ethane,
 bis-(methyl-cyclohexyl) propane, norbornyl,
 norbornane dimethyl, trimethyl hexamethylene, bis-
 (cyclohexyl) methane, bis-(cyclohexyl) ethane, bis-
 (cyclohexyl) propane,
 Y_1 = (CH₂): 2 - 12 (CH₂) units, cyclohexyl, bis-(methyl-
 cyclohexyl) methane, bis-(methylcyclohexyl) ethane,
 bis-(methyl-cyclohexyl) propane, norbornyl,
 norbornane dimethyl, trimethyl hexamethylene, bis-(
 cyclohexyl) methane, bis-(cyclohexyl) ethane, bis-
 (cyclohexyl) propane,
 Z = (CH₂): 4 - 12 (CH₂) units, cyclohexyl, bis-(methyl-
 cyclohexyl) methane, bis-(methylcyclohexyl) ethane,
 bis-(methyl-cyclohexyl) propane, norbornyl,
 norbornyl dimethyl,
 Z_1 = (CH₂): 4 - 12 (CH₂) units, cyclohexyl, bis-(methyl-
 cyclohexyl) methane, bis-(methyl-cyclohexyl) ethane,
 bis-(methyl-cyclohexyl) propane, norbornyl,
 norbornyl dimethyl, trimethyl hexamethylene, and

a = 0 - 50 mole-%, b = 0 - 100 mole-%, a₁ = 0 - 50 mole-%, b₁ = 0 - 100 mole-%, and the sum of a + a₁ + b + b₁ is 100 mole-% and the sum of c + c₁ is 100 % by weight; and wherein said semicrystalline polyamide (II) is represented by chains of formula (IIa) and/or (IIb):



where

u = (CH₂): 4 - 12 (CH₂) units, v = (CH₂): 4 - 12 (CH₂) units,

s, s₁ = (CH₂): 2 - 12 (CH₂) units, meta-xylylene, para-xylylene,

t, t₁ = (CH₂): 2 - 12 (CH₂) units, iso-phenylene, para-phenylene, and

f = 0 - 50 mole-%, d = 0 - 100 mole-%,

f₁ = 0 - 50 mole-%, e = 0 - 100 mole-%,

wherein the sum of f + f₁ + d + e is 100 mole-% and

the sum of g + g₁ is 100 % by weight; and

at least 0.01 to 2.0 parts by weight of a phosphorus compound of formula (III), related to 100 parts by weight of said polyamides of formulas (Ia)/(Ib), (IIa)/(IIb), which may be used in a pure form or as an aqueous solution:



where

X = H, -OR'', 2-pyridyl, -NH₂, -NHR', -NR'R'', wherein X

may be bonded to (R') or may be directly bonded to P,

R' = (CH₂)_{n1}, linear or branched,

R'' = Li, Na, K, H, (CH₂)_{n2}, linear or branched, and

n = integer of 0 to 5; l = 0, 1, 1.5, 2, 2.5; m = integer

of 0 to 3; n₁ = integer of 1 to 12, n₂ = 1 to 12; and/or

0.01 to 15 parts by weight of cyclic phosphonic acid

anhydride compounds of formula (IV), related to 100 parts

by weight of said polyamides of formulas (Ia)/(Ib),

(IIa)/(IIb), which may be used in a pure form or as an

aqueous solution:



where

n = 3, 4, 5, 6, an alternating -P-O- heterocycle having

3, 4, 5, 6 (P-O) units in the ring,

R = CH₃, C₂H₅, C₃H₇, C₄H₉, isobutyl, 2,2,6,6-tetramethyl-

4-piperidyl.

52. (withdrawn-currently amended) The composite molded

article of ~~material composites according to~~ claim 51,

containing 10 to 90 % by weight of a polyamide (I) and 90

to 10 % by weight of a semicrystalline polyamide (II).

- 53.(new) The composite molded article of claim 27 comprising 0.01 to 2.0 % by weight of said lubricant.
- 54.(new) The composite molded article of claim 32 wherein said polyamide further comprises copolymerized monomers selected from the group consisting of aliphatic, cycloaliphatics and aromatic.
- 55.(new) The composite molded article of claim 36 wherein said vapour coating processes comprises sputtering.
- 56.(new) The composite molded article of claim 39 wherein said functional films are selected from polarizing sheets.
- 57.(new) The composite molded article of claim 42 wherein said impact strength modifiers are selected from grafted sheath/core polymers and impact strength modifiers, thermotropic additives, thermochromic additives glass fibres, glass balls, or antidamping agents.
- 58.(new) The composite molded article of claim 57 wherein said impact strength modifiers are selected from the group consisting of SBR, SBS, EPS, EPR, SEBS, EMP, EPDM, maleic anhydride, grafted polyethylenes, propylene and terpolymers of ethylene-glycidyl methacrylate.